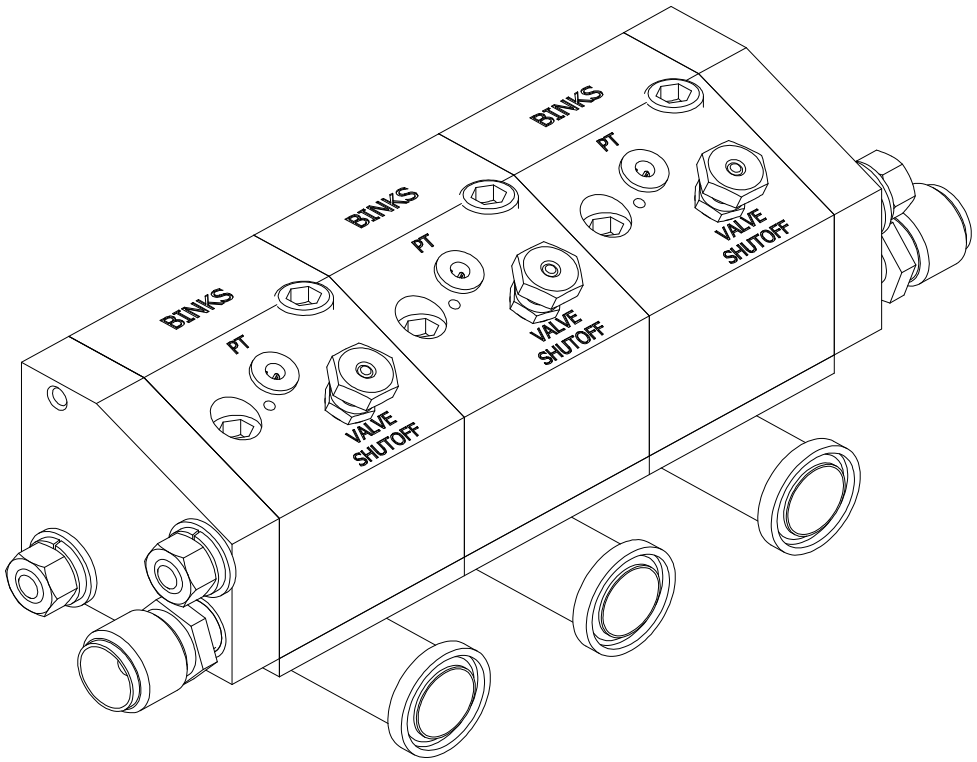
PRODUCT MANUAL

CS-11-01.2

Inline/Piggable
Modular Color Changer



MODEL: A12800-XX

IMPORTANT: Before using this equipment, carefully read SAFETY PRECAUTIONS, starting on page 1, and all instructions in this manual. Keep this Service Manual for future reference.

Product Manual Price: $50.00

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Section 1: SAFETY

Before operating, maintaining or servicing any Binks electrostatic coating system, read and understand all of the technical and safety literature for your Binks products. This manual contains information that is important for you to know and understand.

This information relates to USER SAFETY and PREVENTING EQUIPMENT PROBLEMS. To help you recognize this information, we use the following symbols:

CAUTION - states information that tells how to prevent damage to equipment or how to avoid a situation that might cause minor injury.

WARNING - states information to alert you to a situation that might cause serious injury if instructions are not followed.

While this manual lists standard specifications and service procedures, some minor deviations may be found between the literature and your equipment. Differences in local codes and plant requirements, material delivery requirements, etc., make such variations inevitable. Compare this manual with your system installation drawings and appropriate Binks equipment manuals to reconcile such differences.

Careful study and continued use of this manual will provide a better understanding of the equipment and process, resulting in more efficient operation, longer trouble-free service and faster, easier troubleshooting. If you do not have the manuals and safety literature for your Binks system, contact your local Binks representative or Binks.

WARNING

- The user **MUST** read and be familiar with the Safety Section in this manual and the Binks safety literature therein identified.
- This manual **MUST** be read and thoroughly understood by **ALL** personnel who operate , clean or maintain this equipment! Special care should be taken to ensure that the WARNINGS and safety requirements for operating and servicing the equipment are followed. The user should be aware of and adhere to **ALL** local building and fire codes and ordinances as well as NFPA 33 SAFETY STANDARD, 2009 EDITION, prior to installing, operating, and/or servicing this equipment.
- The hazards shown on the following pages may occur during normal use of this equipment. Please read the hazard chart beginning on page 6.

AREA	HAZARD	SAFEGUARDS
Spray Area 	**Fire Hazard** Improper or inadequate operation and maintenance procedures will cause a fire hazard. Protection against inadvertent arcing that is capable of causing fire or explosion is lost if any safety interlocks are disabled during operation. Frequent power supply shut-down indicates a problem in the system requiring correction.	**Follow These Guidelines** Fire extinguishing equipment must be present in the spray area and test periodically. Spray areas must be kept clean to prevent the accumulation of combustible residues. Smoking must never be allowed in the spray area. The high voltage supplied to the atomizer must be turned off prior to cleaning, flushing or maintenance. When using solvents for cleaning: • Those used for equipment flushing should have flash points equal to or higher than those of the coating material. • Those used for general cleaning must have flash points above 1000F (37.80C). Spray booth ventilation must be kept at the rates required by NFPA 33, 2009 Edition, OSHA and local codes. Ventilation must be maintained during cleaning operations using flammable or combustible solvents. Electrostatic arcing must be prevented. Non-factory replacement parts or unauthorized equipment modifications may cause fire or injury. If used, a key switch bypass is intended for use only during setup operations. Production should never be done with safety interlocks disabled. Never use equipment for use in waterborne installations to spray solvent based materials.

AREA	HAZARD	SAFEGUARDS
Spray Area 	**Explosion** Improper or inadequate operation and maintenance procedures may cause an explosion. Protection against inadvertent arcing that is capable of causing fire or explosion is lost if any safety interlocks are disabled during operation. Frequent power supply shut-down indicates a problem in the system requiring correction.	**Follow These Guidelines** Electrostatic arcing MUST be prevented. All electrical equipment must be located outside Class I or II, Division 1 or 2 hazardous areas, in accordance with NFPA 33, 2009 Edition. Test only in areas free of flammable or combustible materials. The current overload sensitivity (if equipped) MUST be set as described in corresponding section of the equip-ment manual. Protection against inadvertent arcing that is capable of causing fire or explosion is lost if the current overload sensitivity is not properly set. Fre-quent power shutdown indicates a problem with the system which requires correction. Always turn the control panel off prior to flushing, clean-ing, or working on spray system equipment. Ensure that the control panel is interlocked with the ventilation system and conveyor in accordance with NFPA 33, 2009 Edition. Have fire extinguishing equipment readily available and tested periodically.
Spray Area 	**Explosion - Incompatible Materials** Halogenated hydrocarbon solvents for ex-ample: methylene chloride and 1,1,1,-Trichloroethane are not chemically compati-ble with the aluminum that might be used in many system components. The chemical reaction caused by these solvents reacting with aluminum can become violent and lead to an equipment explosion.	**Follow These Guidelines** Aluminum is widely used in other spray application equipment - such as material pumps, regulators, trig-gering valves, etc. Halogenated hydrocarbon solvents must never be used with aluminum equipment during spraying, flushing, or cleaning. Read the label or data sheet for the material you intend to spray. If in doubt as to whether or not a coating or cleaning material is compatible, contact your coating supplier. Any other type of solvent may be used with aluminum equipment.

AREA	HAZARD	SAFEGUARDS
Spray Area / High Voltage Equipment 	**Electrical Discharge** There is a high voltage device that can induce an electrical charge on ungrounded objects which is capable of igniting coating materials. Inadequate grounding will cause a spark hazard. A spark can ignite many coating materials and cause a fire or explosion.	**Follow These Guidelines** Parts being sprayed must be supported on conveyors or hangers and be grounded. The resistance between the part and ground must not exceed 1 mega ohm. All electrically conductive objects in the spray area, with the exception of those objects required by the process to be at high voltage, must be grounded. Any person working in the spray area must be grounded. Unless specifically approved for use in hazardous locations, the power supply and other electrical control equipment must NOT be used in Class I, Division 1 or 2 locations.
Electrical Equipment 	**Electrical Discharge** High voltage equipment is utilized. Arcing in areas of flammable or combustible materials may occur. Personnel are exposed to high voltage during operation and maintenance. Protection against inadvertent arcing that may cause a fire or explosion is lost if safety circuits are disabled during operation. Frequent power supply shutdown indicates a problem in the system which requires correction. An electrical arc can ignite coating materials and cause a fire or explosion.	**Follow These Guidelines** All electrical equipment must be located outside Class I or II, Division 1 or 2 hazardous areas. Refer to NFPA 33, 2009 Edition. Turn the power supply OFF before working on the equipment. Test only in areas free of flammable or combustible material. Testing may require high voltage to be on, but only as instructed. Production should never be done with the safety circuits disabled. Before turning the high voltage on, make sure no objects are within the sparking distance.

AREA	HAZARD	SAFEGUARDS
Toxic Substances 	**Mechanical Hazard** Certain material may be harmful if inhaled, or if there is contact with the skin.	**Follow These Guidelines** Follow the requirements of the Material Safety Data Sheet supplied by the coating manufacturer. Adequate exhaust must be provided to keep the air free of accumulations of toxic materials. Use a mask or respirator whenever there is a chance of inhaling sprayed materials. The mask must be compatible with the material being sprayed and its concentration. Equipment must be as prescribed by an industrial hygienist or safety expert, and be NIOSH approved.
Robot Work Area	**Mechanical Hazard** Improper use or maintenance can lead to hazardous conditions, particularly from unexpected robot manipulator movement.	**Follow These Guidelines** Applicator adjustments or maintenance should be done after the robot is taken out of service. Do not adjust or repair the applicator if the robot is operating or standing ready to start. Refer to robot operating instructions for the procedures to take a robot out of service. Follow all OSHA Lockout / Tagout procedures when performing any maintenance.
All Areas	**Improper / Inadequate Training** Improper operation or maintenance may create a hazard. Personnel must be properly trained in the use of this equipment.	**Follow These Guidelines** Personnel must be given training in accordance with the requirements of NFPA 33, 2009 Edition. Instructions and safety precautions must understood prior to using this equipment. Comply with appropriate codes governing ventilation, fire protection, operation maintenance, and housekeeping. OSHA references are sections 1910.94 and 1910.107. Also refer to NFPA 33, 2009 Edition and your insurance company requirements.

Section 2: INTRODUCTION

The **Inline** / **Piggable Modular Color Changer** assembly was designed for use with a pipe circulating system that can also operate as a piggable fluid delivery systems. Made of stainless steel for corrosion resistance and built to stand up under hard, continuous use. The PCC can be easily mounted and was designed for adaptability to the user's needs.

SPECIFICATIONS - Environmental / Physical

Valve Size: Single Valve (See "Mounting Color Changer" figures in the "Installation" section)

Valve Block Assembly Weight: Single Valve Assembly: .45 lbs. (205 grams)

Assembly Weight with 3/4" Tube: .95 lbs. (430 grams)

Purge Block Assembly Weight: .96 lbs. (435 grams)

Spacer Block Weight: .936 Block: .20 lbs. (91 grams)

.437 Block: .09 lbs. (41 grams)

Spacer Plate Weight: .936 Spacer Plate: .04 lbs. (18.1 grams)

.437 Spacer Plate: .02 lbs. (9.1 grams)

Operating Pressure: Fluid: 300 psi max. (20.68 bar)

Trigger Tube: 5/32" (4mm) OD

Micro-Valve Air Actuating Pressure: 75-120 psi (5.2-8.3 bar)

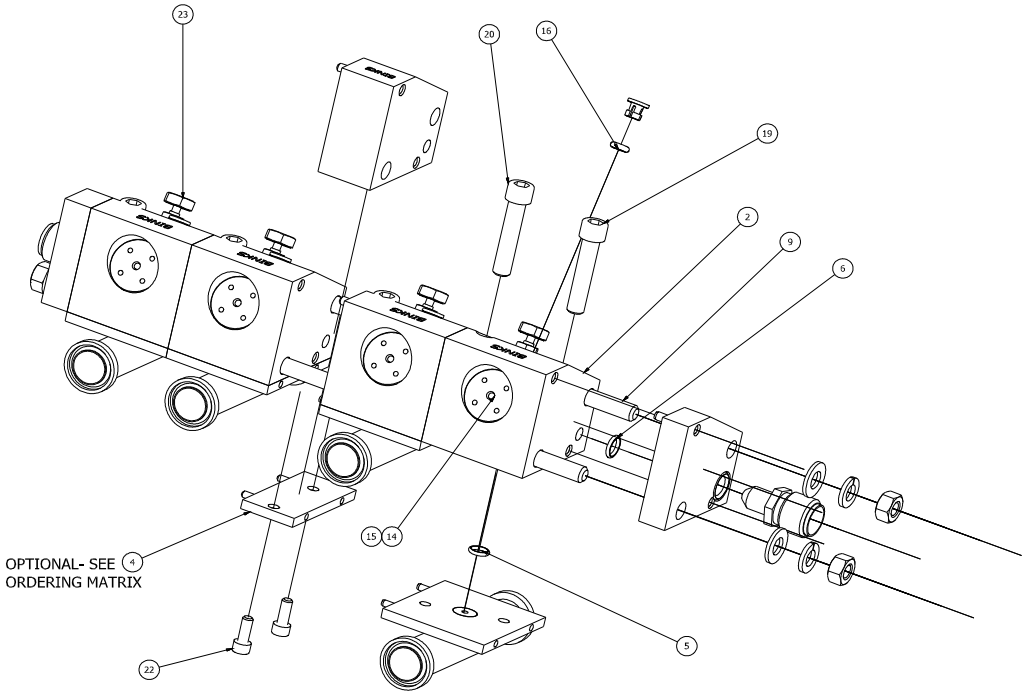
Average Flow Rate: 75 Fl. Oz./2200cc per min. @ 75 psi (50 centiposee)

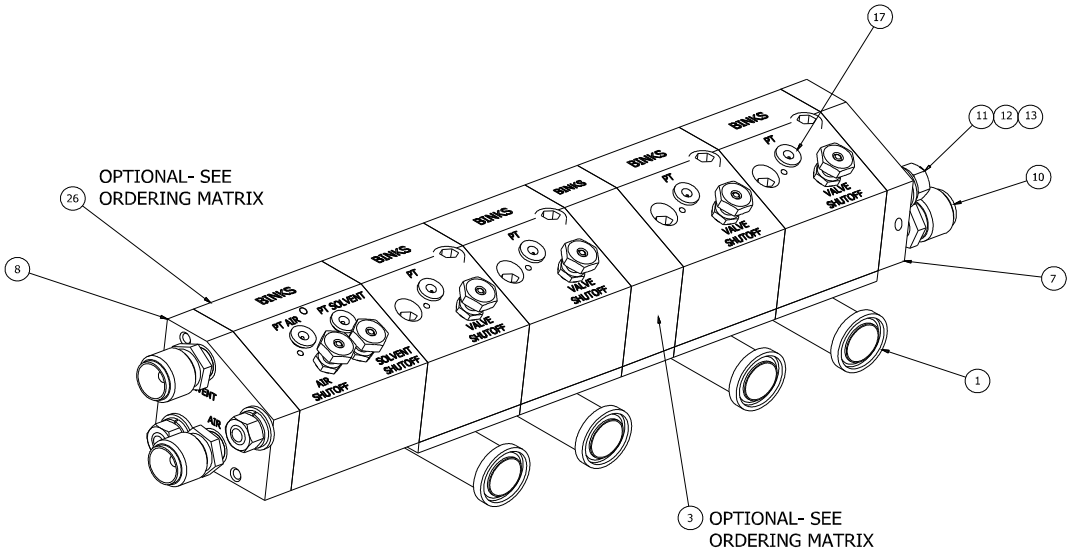
Maximum Number of Colors: 20

Construction Materials: Stainless Steel, UHMW, Fluoropolymer elastomers, and Acetal

PRE-ENGINEERED COLOR CHANGER ASSEMBLIES

The following is for “Pre-Engineered” Color Changer assemblies. Please reference selection chart for the changer assembly number.

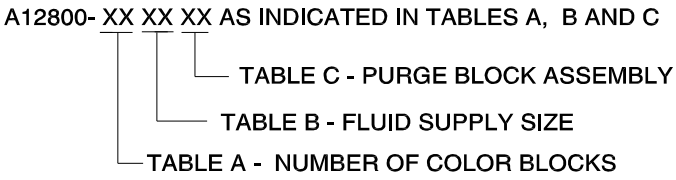




ASSEMBLY SHOWN WITH PURGE BLOCK ASSEMBLY INSTALLED

COLOR CHANGER ASSEMBLY SELECTION GUIDE

When ordering, use A12800 - A, B, or C as indicated by Table A thru C. Four digits must follow the basic part number. For example:


A12800- XX XX XX AS INDICATED IN TABLES A, B AND C
TABLE C - PURGE BLOCK ASSEMBLY
TABLE B - FLUID SUPPLY SIZE
TABLE A - NUMBER OF COLOR BLOCKS

INLINE / PIGGABLE MODULAR COLOR CHANGER PARTS LIST			
ITEM	**QTY**	**PART NUMBER**	**DESCRIPTION**
1	Table A, Item A	Table B, Item E	Plate and Pipe Assembly (Tabulated)
2	Table A, Item A	A12739-00	Color Block (Piggable)
3	Table A, Item B	Table B, Item J	Spacer Block
4	Table A, Item B	Table B, Item K	Spacer Plate
5	Table A, Item A	79001-05	O-Ring, Solvent Proof *****
6	Table A, Item H	79001-06	O-Ring, Solvent Proof *****
7	1	A12759-00	End Block, Outlet
8	Table C, Item M	A12757-00	End Block, Inlet
9	Table B, Item G	A12744-XX	Threaded Rod
10	2	78079-00	Fitting, 7/16-20 X 3/8 NPS******
11	4	78405-06	Flat Washer, Stainless, 5/16
12	4	77588-07	Lock Washer
13	4	A12765-00	Hex Nut, 5/16-18, SS ********
14	Table A, Item A	77367-00	Valve Seat Assembly ****
15	Table A, Item A	78949-00	Valve Assembly (Non-Repairable) ***
16	Table A, Item A	79001-30	O-Ring, Solvent Proof *****
17	Table A, Item A	77516-04	Collet, 4mm
18	Table B, Item F	A12772-01	Screw, SHCS, #10-24
19	Table A, Item L	A12727-00	Screw, SHCS, Shut-off Valve Assembly
20	Table A, Item I	A10766-00	Tool, Valve Seat Removal (Not Shown)
21	Table A, Item I	A10756-00	Tool, Valve Removal (Not Shown)
23	Table A, Item D	76566-56C	Screw, SHCSm 1/4-20 X 1.75, SS
24	Table A, Item D	76566-64C	Screw, SHCS, 1/4-20 X 2.00, SS
26	Table C, Item N	A12827-00	Purge Block Assembly *******
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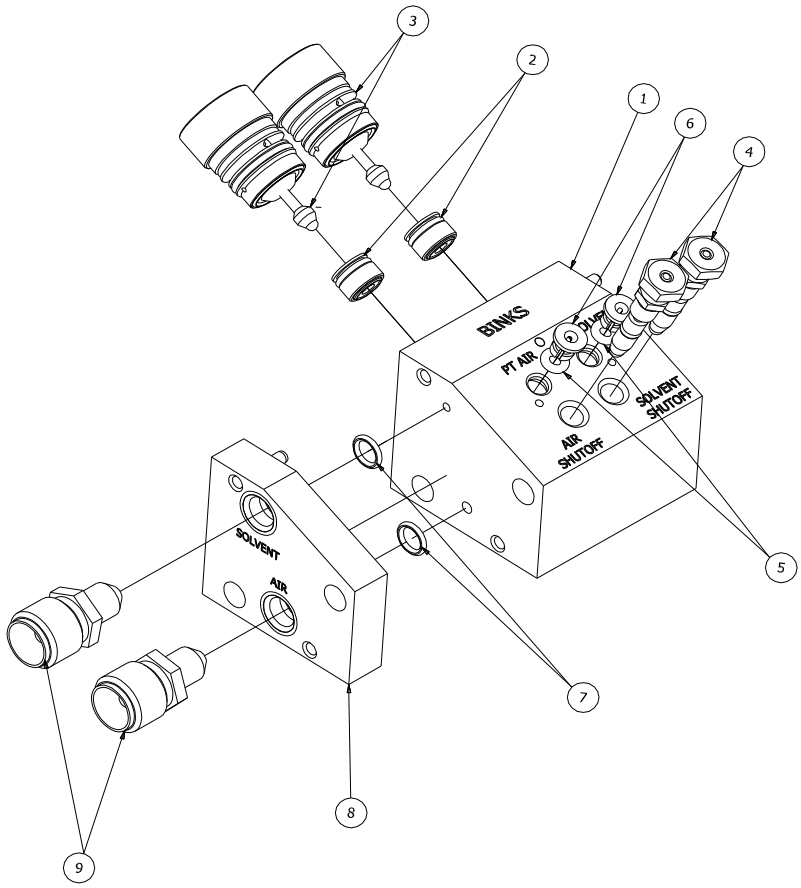
*	When building option with one color, threaded rod length to be 5.03 long (2) pieces.
**	Each assembly requires 2 pieces each of threaded rod cut lengths, deburr ends of rod.
***	Torque to 15-20 lbs•in after valve is down (1.7-2.3 Nm).
****	Torque to 15-20 lbs•in. (1.7-2.3 Nm).
*****	Apply A11545-00 Petrolatum jell onto all o-rings before installation.
******	Torque to 30 lbs•ft. (40.67 Nm).
*******	When ordering this option, add 2.6" to length of "G" in Table B. (Example: 1.91 + (2.12 X number of colors) + 2.6)
********	Torque 30-50 lbs•in (.212/3.53 Nm)

COLOR CHANGER ASSEMBLY SELECTION GUIDE (Continued)

TABLE A - NUMBER OF COLOR BLOCKS						
DASH NO.	DESCRIPTION	"A" QTY	"B" QTY	"D" QTY	"H" QTY	"L" QTY
01	Number of Color Blocks	1	0	2	2	1
02	Number of Color Blocks	2	1	4	3	2
03	Number of Color Blocks	3	2	6	4	3
04	Number of Color Blocks	4	3	8	5	4
05	Number of Color Blocks	5	4	10	6	5
06	Number of Color Blocks	6	5	12	7	6
07	Number of Color Blocks	7	6	14	8	7
08	Number of Color Blocks	8	7	16	9	8
09	Number of Color Blocks	9	8	18	10	9
10	Number of Color Blocks	10	9	20	11	10
11	Number of Color Blocks	11	10	22	12	11
12	Number of Color Blocks	12	11	24	13	12
13	Number of Color Blocks	13	12	26	14	13
14	Number of Color Blocks	14	13	28	15	14
15	Number of Color Blocks	15	14	30	16	15
16	Number of Color Blocks	16	15	32	17	16
17	Number of Color Blocks	17	16	34	18	17
18	Number of Color Blocks	18	17	36	19	18
19	Number of Color Blocks	19	18	38	20	19
20	Number of Color Blocks	20	19	40	21	20

TABLE B - FLUID SUPPLY SIZE						
DASH NO.	DESCRIPTION	"E"	"F"	"J"	"K"	"G" LENGTH OF THREADED ROD
01	1/2" Standard	A12740-01	0	--	--	1.91 + (2.12 X Number of Colors) Pipe Assemblies will be on 2 1/16" Centers ****
02	3/4" Standard	A12740-02	0	--	--	1.91 + (2.12 X Number of Colors) Pipe Assemblies will be on 2 1/16" Centers
03	1" Standard	A12740-03	2	A12742-00	A12762-00	1.91 + (3.06 X Number of Colors) Pipe Assemblies will be on 3" Centers ***
04	1 1/2" Standard	A12740-04	2	A12742-00	A12762-00	1.91 + (3.06 X Number of Colors) Pipe Assemblies will be on 3" Centers ***
05	1/2" Standard	A12740-01	2	A12861-00	A12860-00	1.91 + (2.48 X Number of Colors) Pipe Assemblies will be on 2 1/2" Centers
06	3/4" Standard	A12740-02	2	A12861-00	A12860-00	1.91 + (2.48 X Number of Colors) Pipe Assemblies will be on 2 1/2" Centers

TABLE C			
DASH NO.	DESCRIPTION	"M"	"N"
00	None	1	0
01	Purge Block Assembly *******	0	1



A12827-00 PURGE BLOCK ASSEMBLY			
ITEM	**QTY**	**PART NUMBER**	**DESCRIPTION**
1	1	A12754-00	Purge Block
2	2	77367-00	Valve Seat Assembly **
3	2	78949-00	Valve Assembly *
4	2	A12727-00	Shut-off Valve Assembly
5	2	79001-30	O-Ring, Solvent Proof
6	2	77516-04	Collet, 4mm
7	2	79001-06	O-Ring, Solvent Proof
8	1	A12829-00	Purge Block End Plate Assembly
9	2	78079-00	Ftg, 7/16-20 X 3/8 NPA ***
*	Torque to 15-20 lbs•in after valve is down.		
**	Torque to 15-20 lbs•in (1.7-2.3 Nm).		
***	Torque to 30 lbs•ft (40.67 Nm).		
4	Apply A11545-00 Petrolatum jell to all o-rings prior to installation.		

Section 3: INSTALLATION

This information is intended ONLY to indicate the general installation parameters of this product and, where applicable, its working relationship to other Binks system components in typical use.

Each installation is unique and should be directed by an authorized Binks representative or conducted using the Binks installation drawings provided for your particular installation.

COLOR CHANGER INSTALLATION PROCEDURES

Determine Location for Color Changer

The color changer should be located as close as possible to the spray device in order to save paint and solvent. If possible, use an enclosure to protect the color changer from airborne paints and solvents.

Calculate Footprint of Color Changer (See Mounting Single Valve Color Changer Figure)

To calculate the footprint of the color changer add:

1. The dimension of the purge assembly (if used).
2. The dimension(s) of the color block(s) used to create the desired number of color valves.
3. The dimension of the inlet/outlet block.

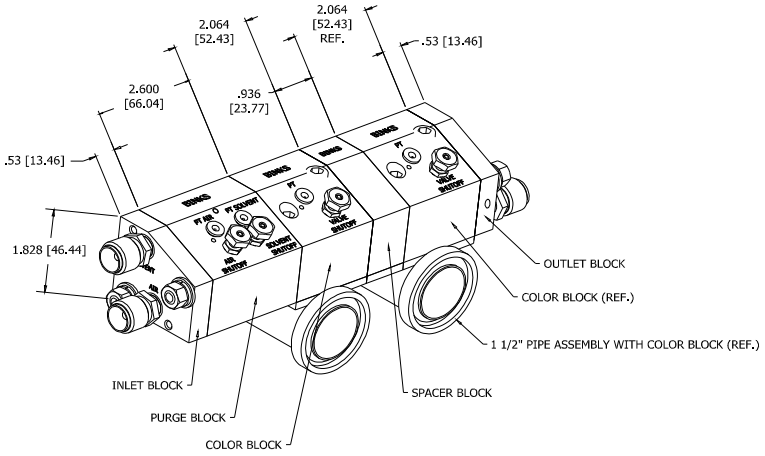
Dimension of Purge Assembly:	2.60” (66.04mm)
Dimension of Color Block Assembly:	2.064” (52.43mm)
Dimension of Spacer Block:	.936”(23.77mm) and .437 (11.10mm)
Dimension of Inlet or Outlet Block:	.53”(13.46mm)

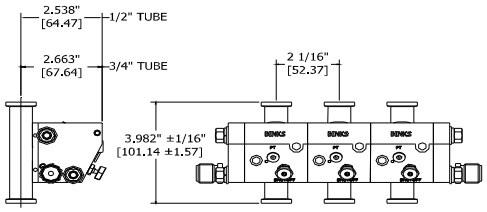
Example of 1/2”and 3/4”Pipe Assembly with 2 Color Blocks (No Spacers):

Inlet Block	.53”	.53”+ .53”+ 2.064”+ 2.064”= 5.188”(131.7mm)
Outlet Block	.53”	**NOTE: If adding Purge Block Assembly add 2.600”**
#1 Color Block	2.064”	5.188”+ 2.600”= 7.988”(197.82mm)
#2 Color Block	2.064	(**NOTE: These pipe center lines will be 2 1/16”Center to Center)**

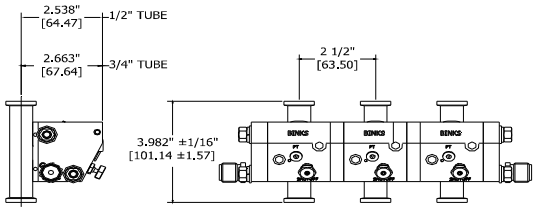
Example of 1”and 1 1/2”Pipe Assembly with 2 Color Blocks with .437 Spacer Block:

Inlet Block	.53”	.53”+ .53”+ .437”+ 2.064”+ 2.064”= 5.625”(142.88mm)
Outlet Block	.53”	(**NOTE: If adding Purge Block Assembly add 2.600”)**
#1 Color Block	2.064”	5.625”+ 2.600” = 7.225”(183.52mm)
#2 Color Block	2.064”	(**NOTE: These pipe center lines will be 2 1/2”center to center)**
Spacer Block	.437”	
Purge Block Assembly	2.600”	

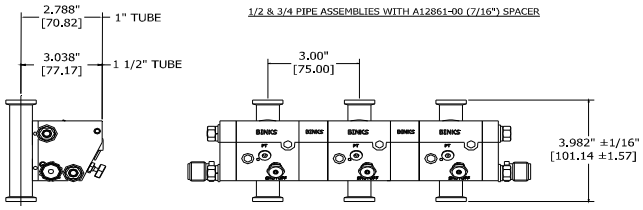




1/2 & 3/4 PIPE ASSEMBLIES/ NO SPACERS



1/2 & 3/4 PIPE ASSEMBLIES WITH A12861-00 (7/16") SPACER



1" & 1 1/2" PIPE ASSEMBLIES WITH A12742-00 (15/16") SPACER

Mounting The Color Changer

The mounting configuration is as follows: Single Valve (See Figures Above)

NOTE - In and out plates are tapped 7/16-20 for "AN" taper fitting.

NOTE - The .936 wide spacer plates (A12742-00) are to be used with 1" or larger pipe assemblies to insure clearance distance of sanitary clamps.

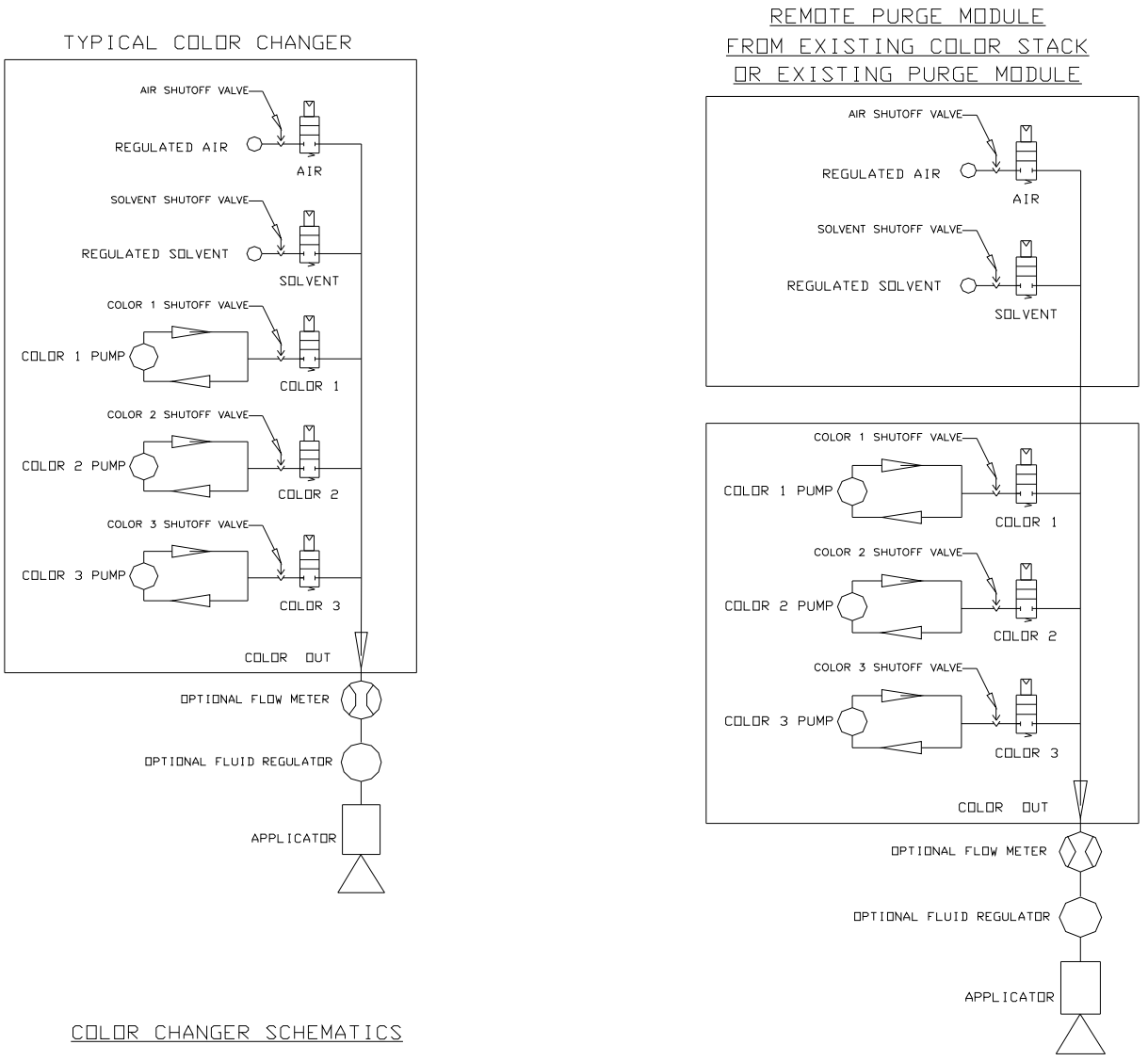
NOTE - The .437 wide spacer blocks (A12861-00) are to be used if retrofitting older Binks Modular Color Change Systems requiring 2 1/2" (63.5mm) center to center spacing of pipe assemblies.

Section 3: OPERATION

This information is intended ONLY to indicate the general installation parameters of this product and, where applicable, its working relationship to other Binks system components in typical use.

Each installation is unique and should be directed by an authorized Binks representative or conducted using the Binks installation drawings provided for your particular installation.

The assembly consists of modules attached to each other. Modules may be added or removed from the assembly as desired. If, for instance, the number of required materials increases, the assembly can be expanded by adding additional modules. Each module can also be individually serviced. The Modular Color Changer is recommended for use with waterborne or solventborne paints.



COLOR CHANGER SCHEMATICS

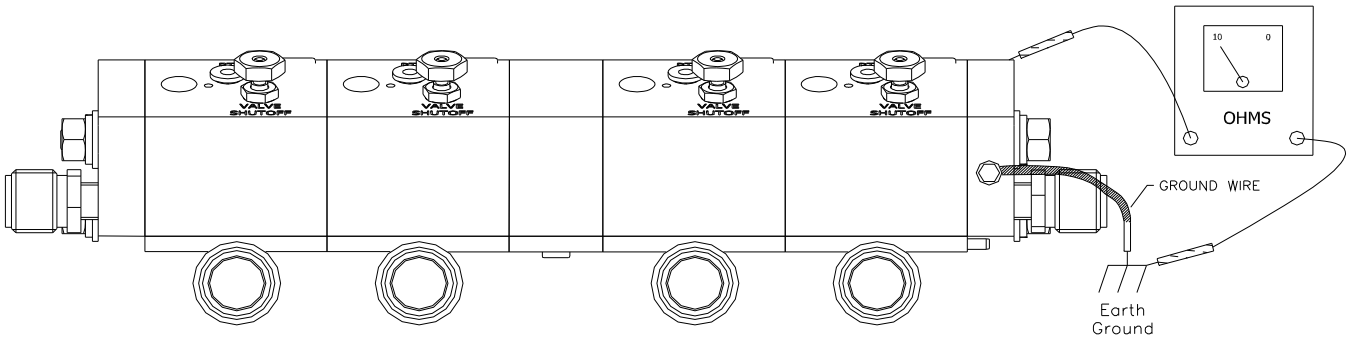
GROUNDING OF THE COLOR CHANGER

WARNING

- The color changer MUST be properly grounded. Proper grounding (as described below) will prevent static charge build-up and possible discharge from the color changer.

GROUNDING OF THE COLOR CHANGERS

For safety, the color changer MUST be grounded. Using a 12-gauge wire, ground the output plate of the color changer to a true earth ground. Using an ohm meter, check for ground, testing the earth ground to the purge assembly top plate. The resistance should be 10 ohms or less.



FLUID INLET AND OUTLET FITTINGS

The in and out of the pipe assemblies have standard sanitary fittings.

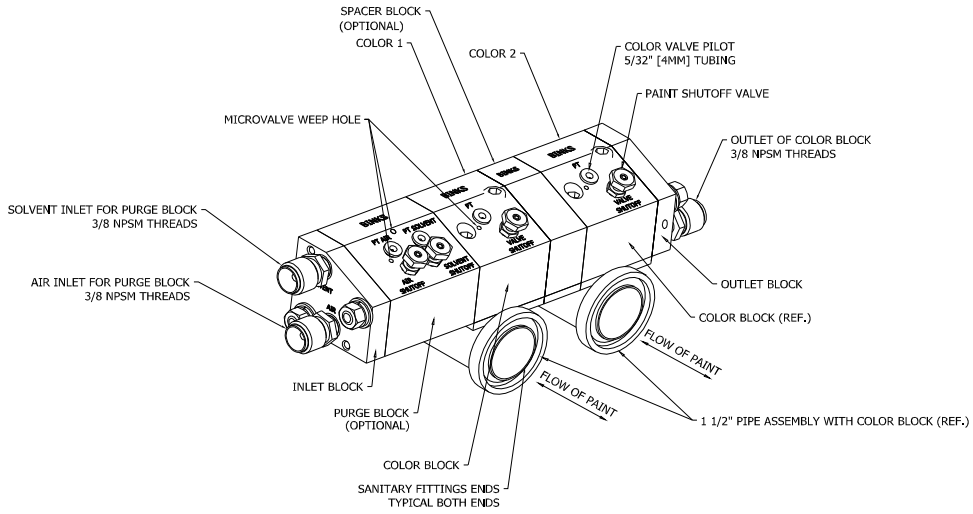
NOTE - In and out hoses CAN be reversed on the color changer.

AIR PILOT HOSE

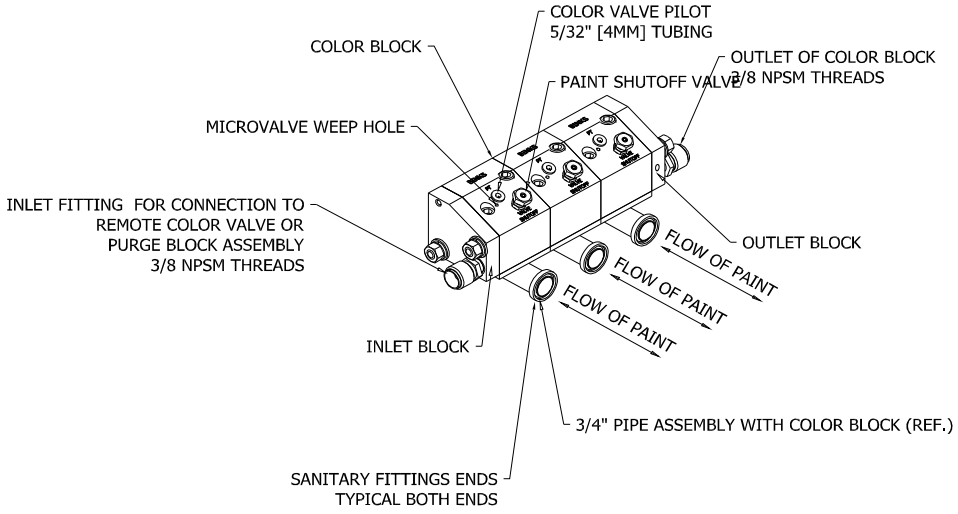
Each color changer valve requires a 5/32”(4mm) pilot hose to activate the color valve.

FLUID OUTPUT HOSE

The fluid output hose of the color changer has a 3/8”NPS (M) fitting. For safety and solvent savings, it is recommended that a PFA fluoroethylene hose be used between the color changer and the spray device.



Assembly with Purge Block



Assembly with No Purge Block

NOTE - Microvalve Weep Holes

These holes will give an indication of fluid valve failure. In the event of the fluid seal failure, paint or solvent will be seen coming out of this hole. In the event that the air seal for the piston fails, air will be heard or felt coming from this hole.

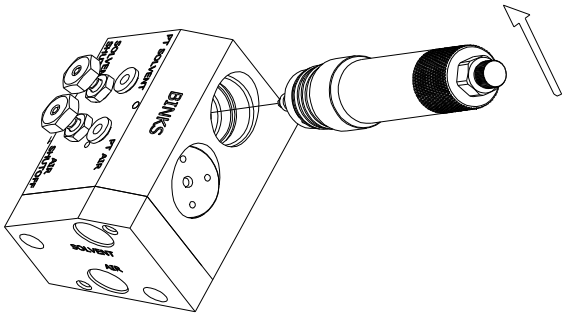
Section 4: MAINTENANCE

CAUTION

- Before attempting to remove **BOTH** the Microvalve Assembly (78949-00) and the Valve Seat Assembly (77367-00), first turn the Shut-Off Valve (A11591-11) counter-clockwise to its open position. Then relieve and flush the main inlet circulating paint line.

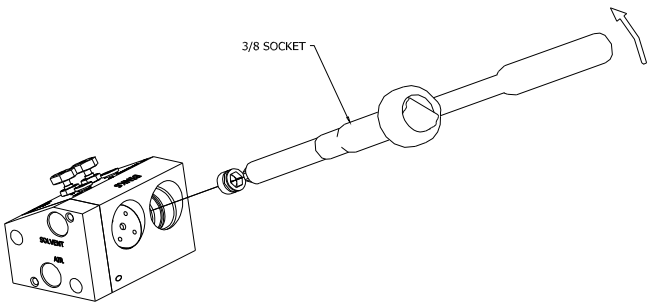
NOTE—If ONLY the Microvalve Assembly (78949-00) is to be removed or replaced, turn the Shut-Off Valve (A11591-00) clockwise to it's closed position. Then relieve and flush the microvalve or downstream side of the color changer.

1. **Microvalve Assembly (78949-00)** - Using the valve removal tool (A10756-00 or A11922-00), engage the four (4) pins of the tool into the four (4) pin holes of the valve assembly. Turn the assembly counter-clockwise until removed).



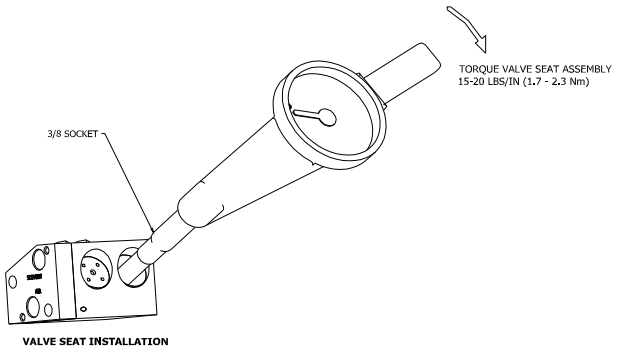
VALVE REMOVAL

2. **Valve Seat Assembly (77367-00)** - If required to remove the valve seat assembly, use the valve seat removal tool (A10766-00) turning the valve seat counter-clockwise until removed. Clean and inspect the valve body and o-rings for defects, replace if necessary.

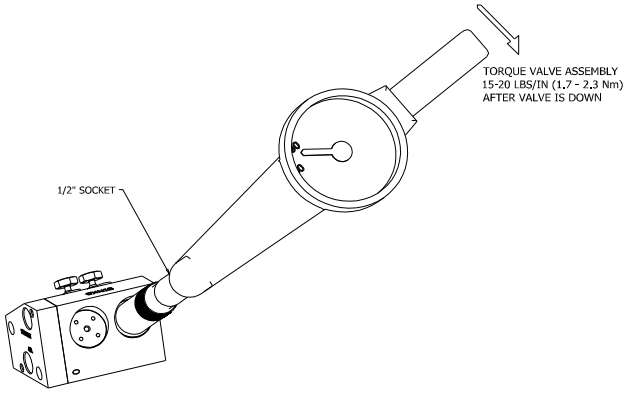


VALVE SEAT REMOVAL

3. **Seat and Microvalve Installation**—If valve seat was removed, lightly lubricate the o-ring on the seat assembly with petroleum jelly. Install valve seat and tighten to 15-20 lbs•in (1.7-2.3 Nm) of torque. Lightly lubricate the o-rings on the microvalve assembly. Install the valve and tighten to 15-20 lbs•in (1.7-2.3 Nm) of torque after valve is down.

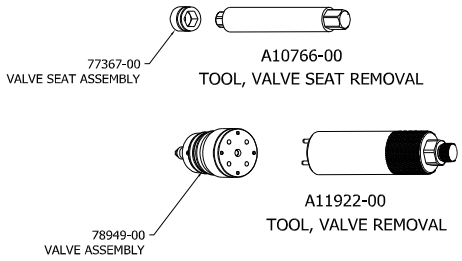


VALVE SEAT INSTALLATION



VALVE INSTALLATION

TEST AND CHECK OUT PROCEDURE FOR COLOR CHANGER



TEST AND CHECK OUT PROCEDURE FOR COLOR CHANGER

Step 1: Test Setup

A. Connect a main air line to the regulator #4.

B. Attach the output of #4 to a push button, manually operated pneumatic On/Off valve #5 and #3, two-way manual ball valve. Attach a 5/32" hose from the output of #5 to pilot connection for the color valve.

C. Attach the output of #3 the sanitary fitting input of the valve. Plug the opposite sanitary fitting of valve.

D. Attach pipe tee, gage, #2 and two-way ball valve assembly #1 to the output of the color changer. Plug off other side.

Step 2: Testing Color Valve Assembly

A. Set output pressure of regulator #4 to 90-100 psi.

NOTE—Turn the shutoff valve #6 counter-clockwise to the OPEN position.

B. With ball valves #1 and #3 in the Off position, push and release the button on the pneumatic valve #5, triggering the microvalve assembly (78949-00) On and Off.

C. Visually inspect the movement of the valve and check for air leaks from the weep hole on the color valve body. If air is leaking, repair or replace valve assembly (78949-00). Check for leaks between the pipe/plate assembly and color valve block. Tighten screws or replace o-ring if necessary.

D. With ball valves #1 and #3 in the On (open) position, push and release the button on the pneumatic valve #5 triggering the microvalve assembly (78949-00) On and Off. Check for a crisp and sharp actuation of air flow through the output of the #1 ball valve. If valve is sluggish, repair or replace valve assembly (78949-00).

Step 3: Testing Valve Body Leak Test

A. With ball valve #3 in the On (open) position and valve #1 In the Off position, push and release the button on the pneumatic valve #5 triggering the microvalve assembly (78949-00) On and Off several times.

B. Check the pressure gage reading on the #2 assembly. This should be within 5 psi of the pressure of the set pressure on regulator #4. The pressure should remain until the valve #1 is returned to the open position. If the pressure does not remain, check all fittings, hardware, and o-rings on the valve body and plate assembly.

Step 4: Testing Microvalve and Valve Seat Assemblies

A. With ball valve #1 in the On position, and valve #3 in the On position, push and release the button on the pneumatic valve #5 triggering the microvalve assembly (78949-00) On and Off several times.

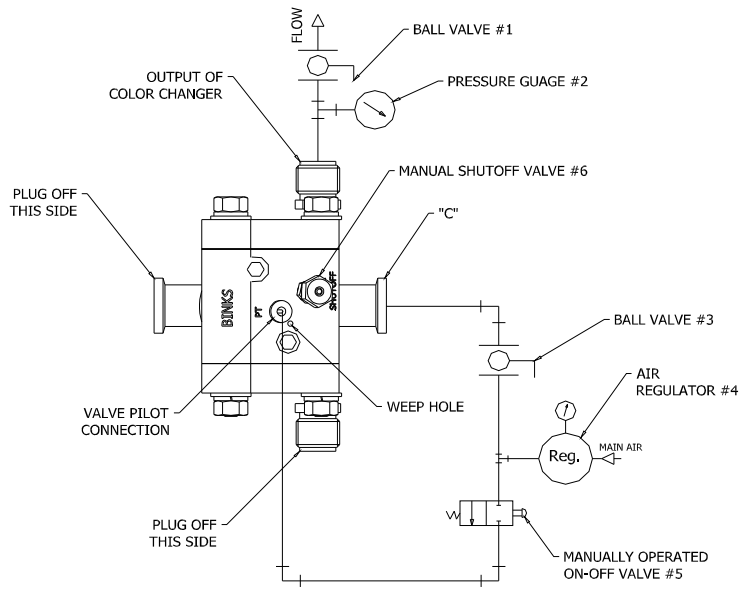
B. Close the 2-way ball valve on the #1 assembly. The pressure should remain 0 psi.

If the pressure is greater than 0 psi, the valve seat assembly (77367-00) should be replaced.

WARNING

- **NEVER** wrap the equipment in plastic to keep it clean. A surface charge may build-up on the plastic surface and discharge to the nearest grounded object. Efficiency of the equipment will also be reduced and damage or failure of the equipment's components may occur. **WRAPPING THE EQUIPMENT** in plastic will void warranty.

VALVE TESTING ASSEMBLY

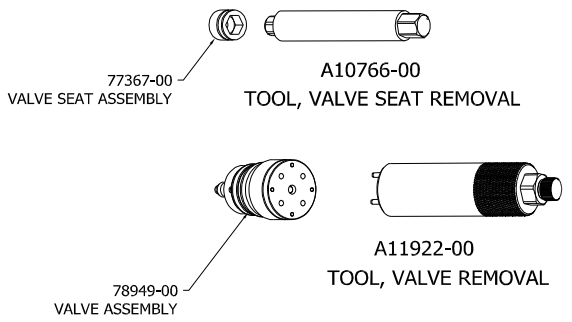


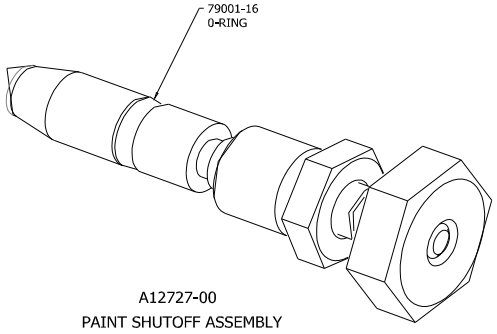
Valve Testing Assembly

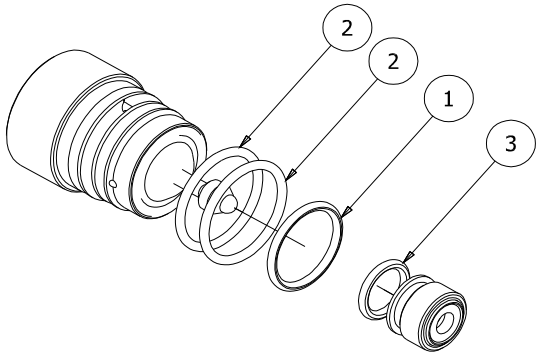
Microvalve Weep Holes

These holes will give an indication of fluid valve failure. In the event of the fluid seal failure, paint or solvent will be seen coming out of this hole. In the event that the air seal for the piston fails, air will be heard or felt coming from this hole.

TOOLS AND OPTIONAL EQUIPMENT

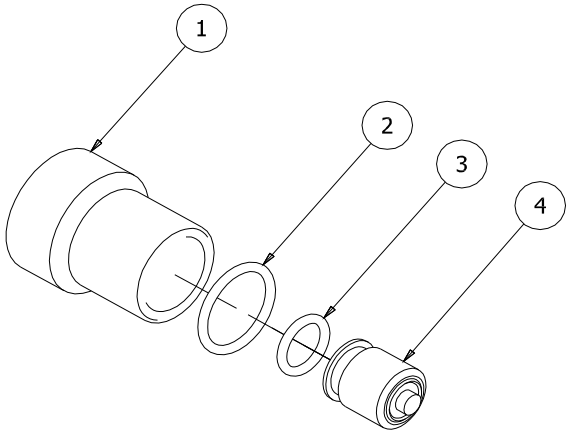






78949-00 VALVE ASSEMBLY / 77367-00 SEAT ASSEMBLY REPLACEMENT PARTS

ITEM	PART NUMBER	DESCRIPTION
1	79001-01	O-Ring (Solventproof)
2	79001-02	O-Ring (Solventproof)
3	79001-04	O-Ring (Solventproof)



77620-00 VALVE PLUG KIT

ITEM	PART NUMBER	DESCRIPTION
1	79244-00	Plug
2	79001-19	O-Ring (Solventproof)
3	79001-14	O-Ring (Solventproof)
4	77618-00	Plug Seat

RECOMMENDED SPARE PARTS

RECOMMENDED SPARE PARTS		
PART NUMBER	**DESCRIPTION**	**QTY**
A12727-00	Shut-off Valve Assembly	4
78949-00	Valve Assembly	2
77367-00	Valve Seat Assembly	2
77516-04	Collet, 4mm	2-4

WARRANTY POLICIES

LIMITED WARRANTY

Binks will replace of repair without charge any part/or equipment that fails within the specified time (see below) because of faulty workmanship or material, provided that the equipment has been used and maintained in accordance with Binks' written safety and operating instructions, and has been used under normal operating conditions. Normal wear items are excluded.

THE USE OF OTHER THAN BINKS APPROVED PARTS VOIDS ALL WARRANTIES.

SPARE PARTS: One hundred and eighty (180) days from date of purchase, except for rebuilt parts (any part number ending in "R") for which the warranty period is ninety (90) days.

EQUIPMENT: When purchased as a complete unit, is one (1) year from date of purchase.

WRAPPING THE APPLICATOR IN PLASTIC WILL VOID THIS WARRANTY.

BINKS' ONLY OBLIGATION UNDER THIS WARRANTY IS TO REPLACE PARTS THAT HAVE FAILED BECAUSE OF FAULTY WORKMANSHIP OR MATERIALS. THERE ARE NO IMPLIED WARRANTIES NOR WARRANTIES OF EITHER MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. BINKS ASSUMES NO LIABILITY FOR INJURY, DAMAGE TO PROPERTY OR FOR CONSEQUENTIAL DAMAGES FOR LOSS OF GOODWILL OR PRODUCTION OR INCOME, WHICH RESULT FROM USE OR MISUSE OF THE EQUIPMENT BY PURCHASER OR OTHERS.

EXCLUSIONS:

If, in Bink's opinion the warranty item in question, or other items damaged by this part was improperly installed, operated or maintained, Binks will assume NO responsibility for repair or replacement of the item or items. The purchaser, therefore will assume all responsibility for any cost of repair or replacement and service related costs if applicable.

Product Manual Price: $50.00 (U.S.)

Manufacturing

1910 North Wayne Street

Angola, Indiana 46703-9100

Telephone: 260-665-8800

Fax: 260-665-8516

Technical Service - Assistance

320 Phillips Ave.

Toledo, Ohio 43612-1493

Telephone (toll free): 800-233-3366

Telephone: 419-470-2021

Fax: 419-470-2233

Technical Support Representatives can direct you to the appropriate telephone number for ordering spare parts.

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Models and specifications subject to change without notice.

Form No. CS-11-01

Litho in U.S.A.

06/11